REMARKS

Claims 17-36 are pending and under current examination. For the reasons presented herein, Applicants traverse the rejections set forth in the Office Action, wherein the Examiner:

> (a) required affirmation of Applicants' provisional election in response to an oral Restriction Requirement;
>
> (b) rejected claims 17, 18, 29, 30, and 32 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,062,750 ("Butler");
>
> (c) rejected claims 19, 20, 22-25, and 31 under 35 U.S.C. § 103(a) as being unpatentable over Butler in view of U.S. Patent No. 5,810,725 ("Sugihara");
>
> (d) rejected claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Butler and Sugihara as evidenced by U.S. Patent Application Pub. No. 2002/0149040 A1 ("Sun"); and
>
> (e) rejected claims 26-28 under 35 U.S.C. § 103(a) as being unpatentable over Butler and Sugihara in view of an article by Madore et al., entitled "Environmental Sensing Potential with Arrays of Boron-Doped Diamond Microdisk Electrodes," 4th International Symposium on New Materials for Electrochemical Systems, July 9-13, 2001, pp. 23-25 ("Madore").

Regarding the Restriction Requirement:

Applicants affirm their provisional election to prosecute Group I, claims 17-32, characterized by the Examiner as directed to an electrode system, ***with traverse***. Applicants traverse because the Examiner has failed to establish that the search and examination of all the claims cannot be made without serious burden. *See, e.g.*, M.P.E.P. §§ 803, 806, and 808. Applicants respectfully refer the Examiner to M.P.E.P. § 803, which states that "[i]f the search and examination of all the claims in an application can be made **without serious burden**, the examiner **must** examine them on the merits, *even though they include claims to independent or distinct inventions*." M.P.E.P. § 803 (emphases added).

In general, a requirement for restriction unquestionably places a significant burden on a patent applicant. In recognition of this, the Office has set forth policy that a requirement for restriction can only be justified if the requirement establishes that the grouped claims define inventions that are either independent or distinct **and** that there would be a serious burden on the Examiner if restriction is not required. In this case, the Office Action fails to properly establish that a serious burden would be placed on the Examiner if the two groups of claims are examined together in one application. Accordingly, the Restriction Requirement is improper under Office policy and procedure, and should be withdrawn. *See* M.P.E.P. § 803.

Specifically, the Office Action fails to establish that there would be any serious burden on the Examiner in keeping the two groups together in one application. In fact, there is no additional search burden in keeping the two groups together. The guidelines for search mandate that a complete search should extend to all probable areas relevant to the claimed subject matter and should cover the disclosed features which might reasonably be expected to be claimed. *See, e.g.,* M.P.E.P. § 904.02(a). For example, if it is reasonably probable that relevant references for a particular process (*e.g.,* Group II) might be uncovered in searching for a related system (*e.g.,* Group I), or vice versa, then the searches for the process and related system overlap and no serious burden exists. As another example, if it is reasonably probable that relevant references for a particular device might be uncovered in searching for a related system or process, or vice versa, then the searches for the device and the related system or process overlap and no serious burden exists.

Based on these search guidelines, a search for the claimed

> process for producing a measurement electrode of an electrode system for an electrochemical cell ... comprising: providing a conducting substrate; depositing an insulating layer ... forming a mask provided with an array of circular apertures ... such that an

> arrangement and diameter of the array corresponds to a diameter of an array of microdisks ... etching the insulating layer through the mask to form circular apertures ... etching the substrate through the circular apertures to form cavities ... depositing thin metallizations ... ; and depositing thick metallizations

as set forth in claim 33 of Group II, would require searching for an

> electrode system for an electrochemical cell ... comprising: a substrate formed of an electrically conducting material and pierced on at least one surface by a regular array of cavities ... a measurement electrode associated with the substrate [and] being formed from a plurality of connected and electrically conducting microdisks that are contained within the cavities ... and a generator electrode associated with the substrate

as set forth in claim 17 of Group I, and vice versa. Accordingly, there would be no serious search burden in keeping Group I and Group II together in a single application.

The above-mentioned search guidelines in the M.P.E.P. mandate that a complete search for these features includes a search of all probable areas relevant to these features. In view of the above-quoted similar features that are recited in each of claim 33 of group II and claim 17 of group I, it is evident that a complete search of at least claim 33 of group II would overlap the search for at least claim 17 of group I.

Moreover, the Office Action alleges that

> [t]he inventions listed as Groups I and II do not related to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Both groups I and II share the feature of [an] electrically conducting substrate. However, Butler (US 4,062,750) teaches an electrochemical cell and electrode system comprising an electrically conductive substrate [and therefore], the common feature between both groups, an electrically conducting substrate, does not provide a contribution over the prior art, and, thus, cannot be a special technical feature.

Office Action, pp. 2-3. Applicants respectfully disagree, noting that Butler does not disclose or suggest at least an electrically conducting substrate being pierced on its upper face by a regular array of cavities. (Butler's deficiencies will be discussed more fully in the next section.)

In addition, the Office Action refers to PCT Rule 13.1 (Office Action, p. 2) relating to the unity of invention. Applicants note, however, that GB 1 505 343, which corresponds to Butler, was also cited during the international proceedings and no objection for lack of unity of invention was raised during the international phase.

In summary, the Office Action failed to establish that there would be a serious burden on the Examiner in examining claims 17-36 together in this application. Accordingly, withdrawal of the requirement for restriction is respectfully requested.

Rejection of Claims 17, 18, 29, 30, and 32 under 35 U.S.C. § 102(b):

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 17, 18, 29, 30, and 32 under 35 U.S.C. § 102(b) as being anticipated by Butler. In order to establish anticipation under 35 U.S.C. § 102, the Office Action must show that each and every element as set forth in the claim is found, either expressly or inherently described, in Butler. *See* M.P.E.P. § 2131. Furthermore, "[t]he elements must be arranged as required by the claim." *Id.* Butler, however, does not disclose each and every element of Applicants' claimed invention.

Specifically, Butler does not disclose at least Applicants' claimed "substrate formed of an electrically conducting material and pierced on at least one surface by a regular array of cavities; [having] electrically conducting microdisks that are contained within the cavities," as recited in independent claim 17.

In contrast, Butler describes an electrode system comprising an electrically conductive substrate (25) and an electrically insulating layer (26) deposited on the substrate (25). It is clear

from Butler's Fig. 2 that the substrate (25) is planar and does not comprise any orifices. Therefore, consistent with Butler's disclosure, any microdisks forming a measurement electrode cannot be contained within cavities formed on the substrate. According to Butler, the cavities for containing a measurement electrode are not on the substrate, but are instead on the insulating layer (26). This silicon dioxide insulating layer (26) is different from the claimed substrate.

Butler therefore does not anticipate Applicants' independent claim 17, or dependent claims 18, 29, 30, and 32. Independent claim 17 should therefore be allowable. Dependent claims 18, 29, 30, and 32 should also be allowable at least due to their dependence from base claim 17, as well as because they recite additional features not taught or suggested by Butler. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Remaining Rejections of Claims 19-28 and 31 under 35 U.S.C. § 103(a):

Applicants respectfully request reconsideration and withdrawal of the remaining rejections of dependent claims 19-28 and 31 under 35 U.S.C. § 103(a) being unpatentable over Butler in view of Sugihara and one or more of Sun and Madore.

The Office Action has not properly resolved the *Graham* factual inquiries, the proper resolution of which is the requirement for establishing a framework for an objective obviousness analysis. *See* M.P.E.P. § 2141(II), citing to *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), as reiterated by the U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 USPQ2d 1385 (2007). As such, no *prima facie* case of obviousness has been established with respect to these claims for at least the reason that the cited references, taken alone or in combination, do not teach or suggest each and every claim element of independent claim 17, from which claims 19-28 and 31 depend. The burden thus remains with the Examiner.

In particular, the Office Action has not properly determined the scope and content of the prior art. That is, the cited references do not teach or suggest what the Office Action attributes to them. In addition, the Office Action has not properly ascertained the differences between the claimed invention and the prior art, at least because it has not properly interpreted the prior art and considered ***both*** the invention ***and*** the prior art ***as a whole***. *See* M.P.E.P. § 2141(II)(B).

In contrast to the allegations in the Office Action at pp. 6-10, the cited references, taken alone or in combination, do not teach or suggest at least Applicants' claimed "substrate formed of an electrically conducting material and pierced on at least one surface by a regular array of cavities; [having] electrically conducting microdisks that are contained within the cavities," as recited in independent claim 17.

Sugihara describes a device for measurement of electric activities of nerve cells, which includes an electrode formed in a cavity and comprising a nickel layer (6), a gold layer (7) and a thick platinum black layer (8). *See* Sugihara, Fig. 2. However, the cavity in Sugihara is delimited by an indium tin oxide (ITO) layer (2) and an insulating layer (4), which are disposed on an insulating substrate (3). Therefore, Sugihara's substrate is not pierced by a cavity, but instead Sugihara's cavities pierce the insulating layer (4).

Sun describes an electrode in which the adhesion layer is made of titanium and the conducting layer is made of platinum. *See* Sun, Fig. 1. In Sun, however, there is no disclosure or suggestion of a substrate in which a network of cavities has been pierced, such cavities comprising the electrode, as claimed.

Madore teaches boron doped diamond electrodes. In Madore, there is also no disclosure or suggestion of a substrate in which a network of cavities has been pierced, such cavities comprising the electrode, as claimed.

Thus, Butler in view of Sugihara and one or more of Sun and Madore does not result in the claimed invention, since none of the references, whether taken alone or in any combination, discloses or suggests at least Applicants' claimed "substrate formed of an electrically conducting material and pierced on at least one surface by a regular array of cavities; [having] electrically conducting microdisks that are contained within the cavities," as recited in independent claim 17. Moreover, this feature represents a significant difference between the invention of claim 17 and the cited references, among other differences. The cited references therefore do not render obvious any of Applicants' claims.

The Office Action has therefore neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and the claimed invention. In view of the reasoning presented above, Applicants therefore submit that independent claim 17 is not obvious over Butler, Sugihara, Sun, and Madore, whether these references are taken alone or in any combination. Independent claim 17 should therefore be allowable. Dependent claims 19-28 and 31 should also be allowable at least due to their dependence from base claim 17, as well as because they recite additional features not taught or suggested by the cited references. Accordingly, Applicants respectfully request reconsideration and withdrawal of the remaining 35 U.S.C. § 103(a) rejections.

Conclusion:

Applicants respectfully request reconsideration of the application and withdrawal of the rejections. Pending claims 17-32 are in condition for allowance (as are claims 33-36, nonelected with traverse), and Applicants request a favorable action.

The Office Action contains statements characterizing the related art and the claims. Regardless of whether any such statements are specifically identified herein, Applicants decline to automatically subscribe to any statements in the Office Action.

If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

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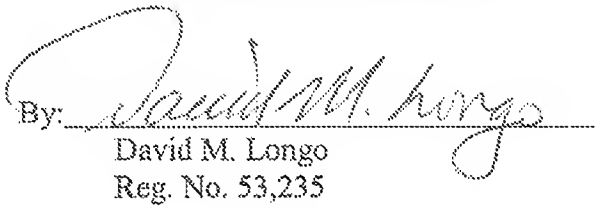
By: 
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